IN THE CLAIMS

Please amend the claims as follows:

Claims 1-10 (Canceled).

Claim 11 (Currently Amended): A method for estimating total mass of a motor vehicle, ~~by a recursive least-squares algorithm,~~ comprising:

calculating, by a recursive least-squares algorithm, longitudinal acceleration of the vehicle based on Newton's Second Law of Motion, by analysis of errors, by an acceleration variation due to errors comprising an error in variation of the vehicle mass relative to a reference mass, an error in inclination of the surface on which the vehicle is traveling, and errors of a model, the inclination being supplied by a slope sensor or by an inclination-estimating mechanism; and

estimating the inclination of the surface on which the motor vehicle is traveling based on the acceleration variation due to errors, the recursive least-squares algorithm depends on the inclination and has at least two modes, a flat mode when the inclination is within a predetermined interval of values corresponding to a plane surface, and a slope mode when the inclination is not within the predetermined interval of values corresponding to the plane surface.

Claim 12 (Previously Presented): A method according to claim 11, wherein:

data comprising a reinitialization instruction, vehicle speed, rate of rotation of an engine, torque transmitted by the engine, detection of actuation of a clutch, detection of actuation of brakes, and detection of cornering of the vehicle are processed to calculate the longitudinal acceleration of the vehicle, a resultant of motive forces, aerodynamic forces and rolling forces, and an equivalent mass due to inertial forces of transmission.

Claim 13 (Previously Presented): A method according to claim 12, wherein:

processing of the data is enabled when the data remains respectively in predetermined intervals of values that ensure validity of the model;

the total mass of the vehicle is estimated by a recursive least-squares algorithm;

an estimate of the total mass of the vehicle is supervised by providing a predetermined mass such that the recursive least-squares algorithm has not converged, by fixing the estimated mass when a predetermined convergence criterion has been reached.

Claim 14 (Previously Presented): A method according to claim 13, wherein a loop of the estimated mass is additionally processed, and the acceleration variation due to errors comprising the error in the variation of the vehicle mass relative to a reference mass, the error in the inclination of the surface on which the vehicle is traveling, and the errors of the model during data processing is calculated, and an acceleration that a slope sensor would provide if such were present is estimated and used in the recursive least-squares algorithm, the slope-sensor estimate of acceleration using the acceleration variation due to errors.

Claim 15 (Canceled).

Claim 16 (Previously Presented): A method according to claim 13, wherein, during the processing of the data, an acceleration that a slope sensor would provide if such were present is additionally estimated by the inclination of the surface on which the vehicle is traveling, the inclination being provided by the inclination-estimating mechanism and the slope-sensor acceleration being used in the recursive least-squares algorithm.

Claim 17 (Previously Presented): A method according to claim 13, wherein an acceleration provided by a slope sensor being used in the recursive least-squares algorithm is additionally processed.

Claim 18 (Previously Presented): A method according to claim 17, wherein the inclination of the surface on which the vehicle is traveling is calculated from the acceleration provided by the slope sensor and from the calculation of longitudinal acceleration of the vehicle, and the recursive least-squares algorithm depends on the inclination and has two modes, a flat mode when the inclination is situated in a predetermined interval of values corresponding to a plane surface, and a slope mode in other cases.

Claim 19 (Currently Amended): A device for estimating total mass of a motor vehicle, ~~including~~ comprising:

a plurality of sensors including:

wheel-speed sensors,

an engine-torque sensor,

a rate of rotation of an engine sensor,

a clutch-pedal position sensor,

a brake-pedal position sensor, and

means for detecting cornering of the vehicle;[[,]] and

an electronic control unit to which the sensors are connected,

wherein the electronic control unit includes:

reinitialization means,[[;]]

means for estimating total mass of the vehicle by a recursive least-squares algorithm, including calculating longitudinal acceleration of the vehicle based on Newton's

Second Law of Motion, by analysis of errors, by an acceleration variation due to errors comprising an error in variation of the mass of the vehicle relative to a reference mass, an error in inclination of the surface on which the vehicle is traveling, and errors of a model,[[;]]

means for processing data transmitted by the plurality of sensors,[[;]]

means for enabling the processing of the data when the data ~~remain~~ remains respectively in predetermined intervals of values that ensure validity of the model,[[;]] and

supervising means for providing a default mass as long as the algorithm has not converged, by fixing the estimated mass when a predetermined convergence criterion has been reached.

Claim 20 (Previously Presented): A device according to claim 19, further comprising a slope sensor configured to transmit a longitudinal acceleration of the vehicle to the means for processing.

Claim 21 (New): A method according to Claim 12, wherein the reinitialization instruction is processed so that said total mass of said motor vehicle is measured when a door of the motor vehicle is opened.